

APPENDIX C. AGENCIES AND PERSONS CONSULTED



United States Department of the Interior Fish and Wildlife Service

Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273



February 9, 2015

Mr. Philip T. Marshall
Indiana DNR, Division of
Entomology and Plant Pathology
402 West Washington Street, Room 290
Indianapolis, Indiana 46204

Dear Mr. Marshall:

This responds to your request for comments dated January 5, 2015, regarding the aerial use of Btk on 5,057 acres and mating disruption (pheromone flakes or SPLAT) on 32,500 acres to control gypsy moth at 10 sites located in Lake, Porter, and St. Joseph counties. These comments have been prepared under the authority of the Endangered Species Act of 1973, and are consistent with the intent of the National Environmental Policy Act of 1969.

Endangered Butterflies

Spraying with *Bacillus thuringiensis* (Btk) is of concern for 2 federally endangered species of Lepidoptera in Indiana, the Karner blue butterfly (*Lycaeides melissa samuelis*) and Mitchell's satyr butterfly (*Neonympha mitchelii*). The occurrences and ranges of these species have not changed since our previous reviews of the gypsy moth program. The Karner blue butterfly is known within the Indiana Dunes National Lakeshore (INDU) at the Portage 1 and Dune Acres 1 proposed treatment sites. A number of Indiana endangered, threatened, and rare species of butterflies and moths have been reported in these areas as well, including at the Indiana Dunes State Park within the Dunes Acres 1 treatment site. Mitchell's satyr butterflies are not found in any of the 3 counties where gypsy moth treatments are proposed. Treatment with Disrupt II pheromone flakes is considered to be highly specific for gypsy moths and is not known to have adverse impacts on the federally listed butterflies.

As reported in the December 31, 2014 Federal Register (78775-78778), the U.S. Fish and Wildlife Service has initiated review of a petition to list the monarch butterfly (*Danaus plexippus plexippus*) as a threatened species under the Endangered Species Act. This species has generally been wide-spread, including throughout Indiana, until recent years and is likely to be present in varying numbers in all 10 of the proposed gypsy moth treatment areas, but most particularly in the more rural sites such as Palmer 1 and 2, Portage 1, Chesterton 1, Dunes Acres 1, and Potato Creek 1 and 2, where its larval food consisting of milkweed species (*Asclepias* spp.) are most likely to be

found. Of these 7 locations, Btk is proposed as the treatment method for Palmer 1 and 2 and Potato Creek 1, although mating disruption would be utilized at Potato Creek 2, a much larger area that includes the entire Potato Creek 1 site. We therefore recommend that IDNR give serious consideration to utilizing mating disruption as the treatment method for the two Palmer and Potato Creek sites in order to lessen the possibility of harm to monarch butterflies; because of its large size and diversity of habitats, we believe that it is especially important to utilize mating disruption at Potato Creek 2 in order to protect monarch butterflies.

Other Endangered Species

The proposed treatment sites are within the range of the federally endangered Indiana bat (*Myotis sodalis*) (entire state) and piping plover (*Charadrius melodus*) (Lake and Porter counties), the proposed endangered northern long-eared bat (*Myotis septentrionalis*) (entire state), the threatened rufa red knot (*Calidris canutus rufa*) (entire state), northern copperbelly water snake (*Nerodia erythrogaster neglecta*) (St. Joseph County), Pitcher's thistle (*Cirsium pitcheri*) (Lake and Porter Counties), and Mead's milkweed (*Asclepias meadii*) (Lake County), and the candidate eastern massasauga rattlesnake (*Sistrurus catenatus*) (Porter and St. Joseph counties).

Indiana bats hibernate in caves during the winter and then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Young are raised in nursery colony roosts in trees, typically near drainageways in undeveloped areas. Prior to hibernation Indiana bats feed intensively around forest near hibernacula to build up adequate fat reserves to survive hibernation.

The diet of Indiana bats consists entirely of insects, and based on previous studies they appear to be somewhat opportunistic feeders. Some studies have found lepidopterans as a major dietary component. It is possible that under some circumstances extensive elimination of lepidopterans over a large habitat area has the potential to adversely affect the food base of an Indiana bat nursery colony. Although the 2015 Btk aerial treatment sites affect a relatively small area of Indiana bat summer habitat, this species is known at Potato Creek State Park where Btk is proposed within Potato Creek 1. Therefore, this underscores our concern about the use of Btk at this site.

The northern long-eared bat (NLEB) is currently proposed for listing under the ESA, with the final listing decision expected on April 2, 2015, which would be prior to the proposed 2015 gypsy moth treatments. At this time, no critical habitat has been proposed for the NLEB. During the summer, NLEBs typically roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically ≥ 3 inches dbh). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. It has also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable). They forage for insects in upland and lowland woodlots and tree lined corridors. During the winter, NLEBs predominately hibernate in caves and abandoned mine portals. This species has been found at the Heron

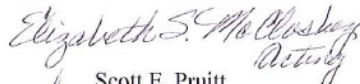
Rookery Unit of INDU, which is just east of the Chesterton 1 gypsy moth treatment site; its status in the Portage 1 and Dunes Acres 1 sites, which include parts of INDU, is unknown. However, mating disruption is proposed at these 3 sites so the food source of the NLEB should not be affected by the treatment.

Pitcher's thistle is known within the Portage 1 treatment site, and the piping plover and rufa red knot may utilize the Lake Michigan beaches within Portage 1 and Dune Acres 1 treatment sites during migration. The northern copperbelly and Mead's milkweed are not known within any of the proposed treatment sites. As a candidate species, the eastern massasauga is not afforded protection under the Endangered Species Act, but it may be proposed for listing in the future.

The FWS concludes that the federally assisted 2015 gypsy moth program is not likely to adversely affect any of these federally listed species, particularly if Btk is not used in sites that are known to or may support the 2 bat species. This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If project plans are changed significantly, please contact our office for further consultation.

If you have any questions regarding this information, please contact Dan Sparks of the Bloomington Field Office at (812) 334-4261, extension 1219, or Elizabeth McCloskey at the Northern Indiana Suboffice at (219) 983-9753.

Sincerely yours,


for Scott E. Pruitt
Field Supervisor

Division of Entomology & Plant Pathology, 402 W. Washington St. Rm 290W, Indianapolis, IN 46204, 317-232-4120, 317-232-2649 fax

April 22, 2015

Scott Pruitt
U.S. Dept. Interior
Fish and Wildlife Service
Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121

Dear Scott:

We have reviewed the letter response dated February 9, 2015 from your office regarding the proposed 2015 gypsy moth treatments. We have evaluated all concerns regarding potential adverse effects to threatened and endangered species occurring within or around the proposed treatment sites. Please review our listed conclusions and their supporting statements.

We do not anticipate any adverse effects to the monarch butterfly (*Danaus plexippus*) due to implementation of this project for the following reasons:

1. Current references available would indicate that the larva of the monarch butterfly would most likely not be present at the time of the proposed treatments.
2. Treatment sites are forested areas and not open fields and pasture areas where milkweed naturally grows.
3. Treatment aircraft have navigation systems that contain the treatment area and boundaries, and pilots turn on and off application guided by navigation system.
4. DNR staff monitors applications and wind to avoid drift out of the treatment site.

We do not anticipate any adverse effects to the Indiana bat (*Myotis sodalist*) at the proposed Btk Potato Creek 1 site due to implementation of this project for the following reasons:

1. The length of time that Btk persists in the environment is a short period of 3-5 days.
2. Only 1 application of Btk is proposed for the Potato Creek 1 site.
3. Based on research on gypsy moth treatments with Btk, full recovery of nontarget lepidopterans occurs within 1 to 2 years after treatment.
4. Indiana bat females will forage out to an approximate radius of 5 miles from their sites (per Scott Pruitt's information). The Potato Creek 1 site would constitute only a small percentage of this overall foraging area, estimated to <5% of the 5 mile radius forage area.
5. No Indiana bat hibernacula are known to occur in the proposed treatment counties. One known nursery colony was near, but not in, the treatment site (per Communication from Elizabeth McCloskey to Phil Marshall).



Mike Pence, Governor
Cameron F. Clark, Director

Division of Entomology & Plant Pathology, 402 W. Washington St. Rm 290W, Indianapolis, IN 46204, 317-232-4120, 317-232-2649 fax

If you have any questions regarding the proposed sites and this information, contact Phil Marshall at 317-232-4189 or Angela Rust at 812-549-9291.

Thank you,

A handwritten signature in blue ink that reads "Philip T. Marshall". The signature is written in a cursive style.

Philip T. Marshall
State Entomologist and Forest Health Specialist

PTW

Cc: Angela Rust

Rust, Angela D.

From: Pruitt, Scott [scott_pruitt@fws.gov]
Sent: Thursday, April 23, 2015 9:01 AM
To: Rust, Angela D.
Cc: Marshall, Philip T.; Haugen, Dennis -FS
Subject: Re: Letter regarding proposed gypsy moth treatments

Angela,
Because you have concluded that your project has No Affect on listed species no concurrence or action is needed from the Fish & Wildlife Service.
Scott

On Wed, Apr 22, 2015 at 5:39 PM, Rust, Angela D. <ARust@dnr.in.gov> wrote:

Scott,

Per the phone conversation today, I have attached a letter for your review and comment. We would greatly appreciate a response on Thursday morning April 23rd if at all possible. Please email the letter/reply to Phil Marshall, Dennis Haugen and myself.

Sincerely,

Angela Rust

Nursery Inspector and Compliance Officer
IN Dept of Natural Resources
Div. of Entomology and Plant Pathology
Tell City, IN Field Office
P.O. Box 757
Tell City, IN 47586
Cell 812-549-9291
arust@dnr.IN.gov

--

Scott Pruitt
Field Supervisor
U.S. Fish & Wildlife Service
Bloomington Field Office
620 South Walker
Bloomington, IN 47403
(812) 334-4261 ext. 1214
(812) 334-4273 FAX
Scott_Pruitt@fws.gov

DNR

Indiana Department of Natural Resources

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.IN.gov

Michael R. Pence, Governor
Cameron F. Clark, Director



January 20, 2015

Philip T. Marshall
Indiana Department of Natural Resources
Division of Entomology and Plant Pathology
402 W. Washington Street, Room 290W
Indianapolis, IN 46204

State Agency: Indiana Department of Natural Resources

Re: Project information concerning the gypsy moth treatment sites for 2015 (DHPA #17116)

Dear Mr. Marshall:

Pursuant to Indiana Code 14-21-1 the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology ("DHPA") has conducted a review of the materials dated and received by the DHPA on January 5, 2015, for the above indicated project in Lake, Porter, and St. Joseph Counties, Indiana.

Based on our analysis, we do not believe that any historic properties will be altered, demolished, or removed by the proposed project.

If you have any further questions regarding this determination, please contact the DHPA. Questions regarding our comments for this project should be directed to Ashley Thomas at (317) 234-7034 or asthomas@dnr.IN.gov. Additionally, in all future correspondence regarding the above indicated project, please refer to DHPA #17116.

Very truly yours,

Mitchell K. Zoll
Director, Division of Historic Preservation & Archaeology

MKZ:ADT:adt

The DNR mission: Protect, enhance, preserve and wisely use natural, cultural and recreational resources for the benefit of Indiana's citizens through professional leadership, management and education.

www.DNR.IN.gov
An Equal Opportunity Employer

THIS IS NOT A PERMIT

**State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment**

DNR #: ER-18068

Request Received: January 5, 2015

Requestor: Indiana Department of Natural Resources
Philip T Marshall
Division of Entomology & Plant Pathology
402 West Washington Street, Room W290
Indianapolis, IN 46204

Project: 2015 Proposed Gypsy Moth Treatment Sites

County/Site info: Lake - Porter - St. Joseph

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment: Formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water is not required for this project.

Natural Heritage Database: The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur within 1/2 mile of the Gary 1, Gary 2, and Palmer 2 treatment sites. However, a list of the natural heritage elements that have been documented within the other treatment sites (or near them as otherwise noted) is attached. The Division of Nature Preserves (DNP) does not anticipate any impacts to the Lepidoptera (and other insect) species, plants, high quality communities, or managed areas in the sites using the mating disruption treatment.

There are no documented lepidopteron within 1/2 mile of the Potato Creek treatment sites. However, these sites contain the state dedicated Swamp Rose Nature Preserve, which is part of a large forest block with interspersed wetlands, including a large marsh. These areas support diverse native vegetation which has the potential to support native Lepidoptera. DNP recommends that the mating disruption be used for the Potato Creek 1 site instead of Btk to avoid impacting the nature preserve.

Fish & Wildlife Comments: We do not foresee any impacts to the mussel or animal species documented within or near the treatment sites.

In all, the devastating effects of uncontrolled gypsy moth infestations are well documented. Effects on non-target species are possible and care should be taken near areas that could possibly possess endangered or threatened species, or special concern species. The effects on target species will depend on a variety of factors and are impossible to predict with certainty. However, controlling the spread of gypsy moths is important to reduce the negative effects the caterpillars have on trees, particularly oaks. At this time, no harm to state or federal listed species resulting from the proposed control measures is known or anticipated.

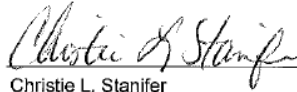
Attachments: A - General Information

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.



Date: February 12, 2015

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife

Attachments: A - General Information

Rust, Angela D.

From: Marshall, Philip T.
Sent: Thursday, April 23, 2015 2:23 PM
To: Rust, Angela D.
Subject: FW: Swamp Rose exemption

Philip T. Marshall
State Entomologist/Forest Health Specialist
Division of Entomology & Plant Pathology
402 W. Washington St. Rm 290W
Indianapolis, IN 46204
317-232-4120 (Division number)
317-232-4189 office
812-595-2740 mobile

From: Swinford, Tom
Sent: Wednesday, April 22, 2015 1:02 PM
To: Marshall, Philip T.
Subject: Swamp Rose exemption

Phil,

After reviewing your revised treatment area for Gypsy Moth in the environs of Swamp Angel NP, we accept the use of BtK and mating disruption management practices, both near and within the small area of the preserve that is proposed.

Please let me know if there are any changes.

Thanks,
Tom

Thomas O. Swinford
Assistant Director
IDNR NATURE PRESERVES
402 W. Washington St. W267
Indianapolis IN 46204

desk 317/233-4849
Mobile 317/697-5508